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ABSTRACT

The collection of data by face-to-face interviews and questionnaires is common and literature in these areas is extensive; but few cases are reported in which respondents have been provided with a blank audio cassette tape, interview schedule, or open-ended questionnaire items, and been invited to record their own comments and forward these to the researcher. This paper begins to redress this imbalance by reporting two studies using a technique involving self-recorded audio cassette tape used along with conventional qualitative data collection methods. The studies involved 2 groups of 64 and 40 students, respectively who were taking courses given by the British Open University in Milton Keynes, England. In the first study, face-to-face interviews and open-ended questionnaire items were compared with the audio-taped responses. In the second study, the three data collection methods were supplemented by the use of telephone interviews. A review of two other studies using self-reported audiotapes supports the findings of these studies, which demonstrate that the use of self-recorded audiotapes is straightforward and presents few problems in subsequent analysis. Some of the limitations of the technique are discussed. (Contains 8 references.) (SLD)

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The Potential of Self Recorded Audio Tape for Data Collection in Distance Education

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The Potential of Self Recorded Audio Tape for Data Collection in Distance Education

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Abstract

The collection of data by face to face interview and questionnaire is common; the research literature in these areas is extensive. However, few cases are reported in the literature where respondents have been supplied with a blank audio cassette tape, interview schedule or open ended questionnaire items and invited to record their own comments and forward these to the researcher. The present paper begins to redress this imbalance. It comments upon how a technique involving self-recorded audio cassette tape has been used alongside conventional qualitative data collection methods. It summarise the findings obtained from these studies and analyses the potential contribution of this alternative data collection method.

Introduction

Data collection by individual interview, be it face to face or over the telephone, allows great flexibility in the phrasing and sequencing of questions and in the use of neutral prompts, (Cohen and Manion, 1985) but is limited by the small number of interviews that can be conducted during that *window in time* when it can be collected. Although held my many researchers to be the most appropriate data collection technique its very operation limits the amount of data that can be collected and from which emergent constructs and their interrelationships can be identified. Employing a team of interviewers to increase the data collected is seldom feasible and raises concerns over interviewer reliability. Conducting small group discussions may increase participation but is susceptible to distortion by atypical, and articulate individuals. Furthermore, extending the data collection period incurs other problems including an undue reliance upon the memory and recall of respondents. In contrast collecting qualitative data by self-recorded audio cassette tape can dramatically increase the amount of

data available to the researcher; data that is created by the respondent at the most appropriate moment in time.

Studies utilizing the technique

Two separate studies, involving 64 and 40 British Open University students respectively, were conducted in which the dual focus was to explore students' perception and use of Activities (self-assessment questions, in-text questions, embedded questions, exercises etc.) in actual teaching material and different qualitative data collection methods. In the first study three data collection methods, involving three separate sub-samples, were employed; the first posed questions in face to face interviews, the second posed them as open ended questionnaire items and the third invited respondents to record their responses on an audio cassette tape. In the second study, in a completely different academic area and again involving several different sub-samples, the three previous data collection methods were supplemented by the use of telephone interviews.

Potential respondents were contacted initially by telephone and invited to participate in the study. Those responding on cassette tape received a copy of the teaching material under investigation, colour coded interview schedules, detailed instructions regarding how to identify themselves and the question to which they were responding and a blank audio cassette tape. The questions were arranged into those that could be posed before study of the teaching material in question, those that were interleaved into the teaching materials (to be answered as they studied that material) and those that could be answered after their study was complete. The practice of interleaving questions into the body of distance teaching material and asking students to respond to them in writing as they study had been adopted during several Developmental Testing exercises (Henderson et al, 1983) and reported upon more fully elsewhere (Nathenson and Henderson, 1980). These *feedback questions* allowed students to respond to particular questions immediately prior to, during and after they had studied that material. Nathenson and Henderson remark upon the success of this data collection strategy in obtaining detailed information on actual teaching material and student

reaction to it without resorting to an individual interview or reliance upon memory when completing a later questionnaire. The practices described by Nathenson and Henderson, in designing and integrating feedback questions into distance teaching texts, were adopted in the two studies.

Unfortunately only isolated accounts involving the use of self recorded audiotape to collect student reactions could be found in the literature. In one an audiotape was used to provide feedback to students on assignments, (Knapper, 1980). In another, audio tape was used to provide comments on a student's assignment at the time of marking, rather than in writing, with an invitation for the students to reply on tape (Evans, 1984). The aim in this project was to provide a personal interchange of information similar to that occurring in a conventional tutorial where a student's performance was under discussion. An evaluation of the project involving telephone interviews with 16 students revealed that many students valued the opportunity to enter a dialogue, that few practical problems were encountered by students in recording a response and that the reaction to the use of a tape was extremely positive and favourable. Evans noted the potential of audio tape in similar contexts and remarked

> "...yet as a form of communication about student's performance they have been little used."
>
> (Evans, 1984 p.108)

More recently two researchers piloting a distance teaching course designed for teachers of English in Sierra Leone, invited teachers to provide self-recorded comments on audio tape (Kaikumba and Cryer, 1987). The researchers wished to obtain information on teachers' understanding of course content as well as its reception and operation in a natural setting; one unconstrained by teachers' ability with English grammar, syntax and punctuation. However, they recognised that planning such a study, amongst teachers studying at a distance, posed major problems regarding travel, time for data collection and associated costs. Their solution was to contact potential participants, and if they agreed to take part, post them a copy of the

teaching material, a blank audio cassette tape and covering letter explaining how they should record their reactions, comments and suggestions. They were aware that the teachers were "effectively interviewing themselves" and further remarked that this form of data collection

> "...does not appear to have been previously noted in the literature"
>
> (Kaikumba and Cryer, 1987 p.59)

Their findings, although based on only seven participants, were extremely encouraging. All but one appeared to be relaxed, uninhibited and enthusiastic with their tone and expression helping in the interpretation of comments.

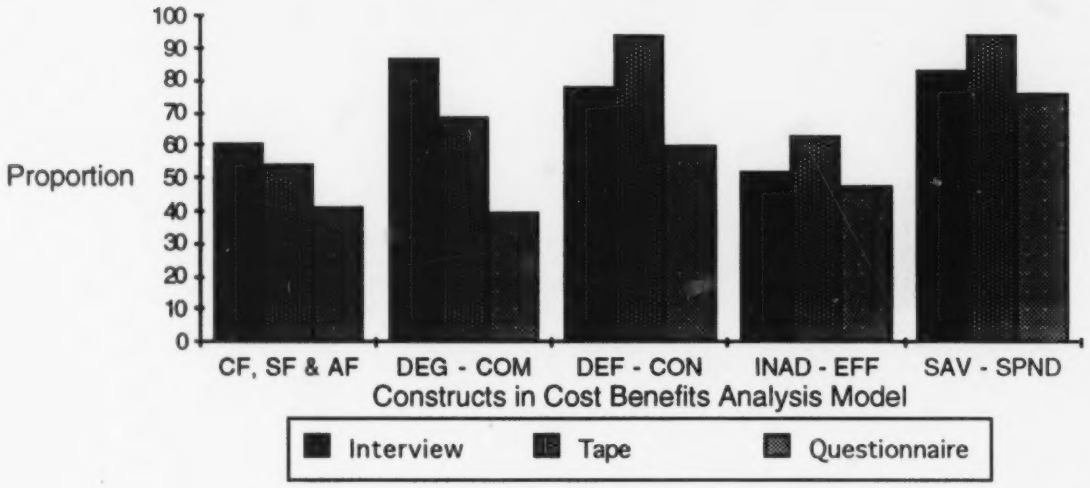
Results of the investigation

The limitations in the use of self-recorded audio tape are obvious - the researcher is unable to establish a rapport with respondents, be sensitive to verbal and non verbal cues, identify and pursue emergent factors and adapt to developments during the interview and types of response. However, analyses revealed that self-recorded tapes made significant contributions to the two studies. Furthermore, within the two studies undertaken with British Open University students each interview transcript or recording was analysed by three independent judges (see Miles and Huberman, 1984) both to categorize students in terms of their perception and use of Activities and to compare and contrast the quality of data generated by the different data collection methods. An analysis of these comparison revealed an extremely high level of reliability in the categorisations and comparability in the quality of data collected by face to face interview and self-recorded audio tape.

What is more, it was evidence from the self-recorded tapes obtained in the first of the two studies, with 64 students, that initially identified the construct 'Inadequacy - Efficiency' (INAD - EFF) within the Cost Benefit Analysis Model (Lockwood, 1992) that described and explained the emotional costs and benefits students balanced as they responded to Activities in teaching texts; once identified it was confirmed within the data provided by other

data collection methods. In subsequent analyses, when the different data collection methods were compared in terms of the successful identification and categorisation of constructs, and in term of levels of response to closed ended questions, the different methods were comparable. The table below indicates the relative agreement in categorisation between the three data collection methods in the first study.

Comparison of proportion of students categorized for the three data collection methods



Note: Constructs in Cost Benefit Analysis Model (Lockwood, 1992)

CF, SF & AF	Course Focused, Self Focused and Assignment Focused benefits
DEG - COM	Degration - Completion
DEF - CON	Deference - Confidence
INAD - EFF	Inadequacy - Efficiency
SAV - SPND	Study Time Savers - Study Time Spenders

What is more, analyses indicated that relinquishing direct control of the data collection process did not necessarily detract from the evidence that was actually provided, nor did the technique suffer unduly from the inability to curtail or redirect respondents' comments. The technique not

only saved time and travel costs, but allowed respondents to decide the most convenient time and place for making a response, eliminated the possibility of leading questions and non verbal cues that may be inadvertently transmitted to the respondent, left the question(s) open to the respondents' interpretation rather than being channelled by the interviewer, avoided any feeling that a constant dialogue be maintained with the respondent controlling the speed and focus of the data collection.

It is worth noting that self recorded tapes proved to be of good technical quality with replies being full and detailed . An indication of the amount of evidence provided can be gauged by comparing the range and mean recorded tape times for self recorded tapes and tape recorded interviews during the first of the two studies. The comparison is presented in the table below.

Comparison of recorded tape times

	N	Tape Time Range	Tape Time Mean
Tape	16	16-65 minutes	36 minutes
Interview	12	35-90	56

Recordings within a range of 16-65 minutes with a mean recording time of 36 minutes represents a substantial amount of data especially when generated on one's own in response to a list of printed questions.

Evidence from "stop and start" tape noise, coupled with changes in voice pattern, indicated that students had followed the instructions in the covering letter and recorded their response to individual questions interleaved into the study material. Very few students displayed any self consciousness at the start of recording (awkward and stilted phrases). Within minutes all but one student had adopted a relaxed, informal, conversational style. A relaxed conversation pace and conspiratorial tone was a characteristic of self-recorded tapes; the intonation associated with comments, and pauses between them, greatly enhanced the interpretation

that was made. Indeed, the solitary conditions under which the tapes were recorded appeared to encourage a degree of openness and frankness that was less apparent in face to face interviews.

Concluding comments

During two separate research studies the use of self recorded audio tape was demonstrated to be straightforward and to present few problems in subsequent analysis. On several indicators considered - length of audio recording, comparison of closed ended responses and identification of constructs, the data collected by self recorded tape compared favourably with that collected by other methods. Further consideration of this form of data collection acknowledged the limitations that self recorded tape imposed but recognized several attractive features worthy of exploitation.

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